

# Standard Operating Procedure

## -ROUTINE MAINTENANCE AND CLEANING-

\*For all SANYO CO2/Multi-gas incubators (MCO-series)

- Cleaning

Recommended frequency: Once a month (depending on frequency/environment of use)

1. Transfer cultures to another incubator.
2. Turn the power off.
3. Remove all of the internal attachments and humidifying pan as detailed in the instruction manual "Removal of attachments" section.
4. Wash the all internal attachments and humidifying pan with neutral detergent and rinse them thoroughly with distilled water, and wipe off with sterilized non-woven fabric/paper. Spray them with ethanol for disinfection (70-80 % ethanol) and wipe off thoroughly.
5. Spray the inside wall of the chamber with ethanol for disinfection (70-80 % ethanol), and wipe off thoroughly. Ensure all of the corners and chamber roof are treated.
6. Sterilize the small parts such as screws, tray supports, etc. by a dry heat oven or an autoclave at 180°C. The fan also needs to be sterilized by soaking in the ethanol for disinfection or within an autoclave at 121°C for 20 minutes.
7. Replace all attachments in the chamber and re-fill the humidifying pan with sterile distilled water.
8. Turn the power on after confirming that there is no smell of alcohol inside the chamber.

\* Notes for step 6 above

- Dry heat oven : All components should be wrapped inside aluminum foil.
- Autoclave : For large parts, put into the sterilization bag.  
For small parts, put into a beaker covered with aluminum foil.

- Notes and tips for cleaner usage of the incubator.

1. Always keep the inner surface of the incubator clean and free from culture medium and/or water. They must be wiped off immediately if ever spilled. (When any film or foreign substances are placed on the surface of the copper alloy stainless steel the sterilization effect will be lost).
2. Always maintain and handle culture vessels under the maximum aseptic conditions. It is recommended to wipe off the bottom and periphery of the culture vessels with ethanol for disinfection when taking them into or out of an incubator.
3. Minimize the door opening and closing frequency.

- Replacement of humidifying water

Recommended frequency: Once in two weeks (depending on frequency/environment of use)

1. Remove the humidifying pan from an incubator.
2. Wash the humidifying pan with neutral detergent, rinse it thoroughly with distilled water and wipe it off with sterilized non-woven fabric/paper.

3. Spray the humidifying pan with ethanol for disinfection (70-80 % ethanol), and wipe off thoroughly.
4. Place the pan under the pan cover and pour the sterile distilled water (preferably pre-heated to 37°C) into it.

- Water replacement of the water jacket (Model: MCO-175)

Recommended frequency: Once a year (depending on water quality)

1. Replace water inside the water jacket of an incubator as detailed in the "Supplying Water" section of the instruction manual.

Note 1 ) Do not use acidic, alkaline, chlorine cleaning agents, detergents, disinfectants and bactericides. They may cause discoloration and/or develop rusts on the metal.

Note 2 ) This Standard Operating Procedure is designed to provide a standard way of operation/maintenance of our range of incubators. Therefore, it is recommended that you modify and apply the optimal procedures that you find most suitable to your own incubators.

## **Standard Operating Procedure -IN THE EVENT OF INCUBATOR CONTAMINATION-**

\*For all SANYO CO2/Multi-gas incubators (MCO-series)

Recommended frequency: Once a week, until the contamination disappears.

1. Immediately after discovery of contamination, all culture in the incubator should be transferred to another incubator.

*Steps from 2 to 7 are the same as Steps 2 to 7 described in the [Routine Maintenance and Cleaning Procedure]. Please refer to the relevant Steps.*

8. Spray Biocidal ZF (\*) to the inside of chamber, and leave the doors half-open until the interior is dry.
9. Turn the power on after confirming that the inside is completely dried.

*In the event that the contamination is severe, execute the following procedure.*

Contact a servicing company, and have the company replace CO2 pipes equipped on the rear side of the incubator.

\* Biocidal ZF: Recommended bactericide. Ammonium-based non-volatile chemical compound without aldehyde.

(Maker ; WAK-Chemie-Medical GmbH <http://www.wak-chemie.com/htm/biozidal.htm> )

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Note 1 ) When using a bactericide other than Biocidal ZF, apply the bactericide after Step 4. After applying such bactericide, wipe off completely with ethanol for disinfection without leaving any residue as this may cause discoloration and/or develop rust, and can also have an effect on cultured cells. (Certain substances require caution: Acidic, alkaline, chlorine and volatile substances)

Note 2 ) If you are required to use the incubator(s) in an environment that is prone to be contaminated easily, the following tips may be found useful for your maintenance and cleaning work.

- Increase the frequency of cleaning and humidifying water replacement.
- Spray Biocidal ZF to the inside of chamber once every two weeks.
- Incubator equipped with the UV lamp: Extend the lighting time of the UV lamp to around 10 minutes from the default setting of 5 minutes (Note: the life of the UV lamp will subsequently be shortened).

Note 3 ) This Standard Operating Procedure is designed to provide a standard way of operation/maintenance of our line of incubators. Therefore, it is recommended that you modify and apply the optimal procedures that you find most suitable to your own incubators.

To minimize the risk of contamination:

- Locate the incubator in a clean room or a site where there are few people.
- Install the Incubator some distance above floor level. (The higher you go, the less floating bacteria are found). Use a roller base to facilitate cleaning around and under the Incubators.
- Install the incubator in an area away from draughts and easy air intrusion when opening and closing the incubator doors. Beware of air ducts and the air flow direction of any air conditioning.
- Ensure that there is no condensation inside chamber.
- Always keep the interior of an incubator clean and free from culture medium and/or water. They must be wiped off immediately if ever spilled. (When there is a film or a foreign matter formed or placed on the surface of the copper alloy, sterilization effect will be lost).
- Always maintain and handle culture vessels under the maximum aseptic conditions possible. It is recommended to wipe off the bottom and periphery of the culture vessels with ethanol for sterilization when taking them into or out of an incubator.
- Minimize the door opening and closing frequency.

### • Replacement of humidifying water

- Recommendation: Please use distilled water or deionized water for humidifying water.
1. Remove the humidifying pan from an incubator.
  2. Wash the humidifying pan with neutral detergent, rinse it thoroughly with water and wipe it off with sterilized non-woven fabric/paper.



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## -IN THE EVENT OF RUSTING

\*For all SANYO CO2/Multi-gas incubators (MCO-series)

1. Scrub the rust with fine-grained cream cleanser (\*).
2. Wipe off with distilled water.
3. Spray the ethanol for disinfection (70-80% ethanol) and wipe off with sterilized non-woven fabric/paper.

\* Recommendation : CIF/JIF/VISS/VIF/VIM --Trade name is different in each country.

(Maker: Unilever <http://www.unilever.com/home/>)

Note 1 ) Removing with rough-grained cream cleanser or too much rubbing may cause the scratch which causes contamination.

Note 2 ) Please maintain the metal part with reference to following

### Cause of Rusting

- If any residue is remained after using acidic, alkaline, chlorine and volatile disinfectants and bactericides..
- The scratch on the metal surface may result in rusting.
- Leaving something attached on the metal surface may result in rusting.
- Case of using an Autoclave: Keeping airtight with remaining moisture on the surface after autoclave may result in rusting.
- Case of using a Dry heat oven: Being created the oxidized scale (discolor to yellow or black) after sterilization by dry heat oven may result in rusting. Higher the sterilization temperature goes up, easier the oxidized scale is created.